



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,121	10/31/2003	Michel Diane Cyriel Van Ackere	Q78135	8457
72875	7590	01/21/2009		
SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037				
EXAMINER				
NGUYEN, QUANG N				
ART UNIT		PAPER NUMBER		
2441				
NOTIFICATION DATE		DELIVERY MODE		
01/21/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com  
kghyndman@sughrue.com  
USPatDocketing@sughrue.com

### Office Action Summary

**Application No.**

10/697,121

**Applicant(s)**

VAN ACKERE ET AL.

**Examiner**

QUANG N. NGUYEN

**Art Unit**

2441

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2008.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-12, 14 and 15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 3-12, 14 and 15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

***Detailed Action***

1. This Office Action is responsive to the Amendment filed 11/06/2008. Claims 1, 3-12 and 14-15 are pending for examination.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 3-5, 7-12 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shen (US 2004/0013120 A1), in view of Killian (US 6,064,671).**

4. As to claim 1, **Shen** teaches a method of relaying traffic from a source to a targeted destination in a communications network, said method comprising the steps of:

providing a first and at least one second network adapter each providing access to a network having a plurality of destinations (*providing egress ports 151 A-C of Fig. 1 and/or interfaces I/F 1, 4, 5 and 7 of Fig. 4*) (**Shen, Figs. 1 and 4-5**),

providing a first routing table which defines at least a first destination associated with the first network adapter (*providing a first routing table 405 for VR-A which defines external destination ED1 associated with interface I/F1*) (**Shen, Fig. 4**), and

relaying said traffic from the source to the targeted destination using one of the network adapters (*the destination of the packet 201 is looked up in the forwarding table to determine the appropriate outgoing interface*) (**Shen, paragraphs [0027-0028]**),

said method comprising the further step of providing at least one second routing table defining a second destination, wherein the second destination is individually associated with said at least one second network adapter (*providing a second routing table 407A for VR-B defining external destination ED2 individually associated with interface I/F4 as illustrated in Fig. 4*), and wherein the step of relaying includes a step of selecting one of the first and second routing tables (*depending on the destinations of the packet such as ED1, ED2, or ED7, the packet is relayed to the appropriate routing tables such as routing table 405 for VR-A, routing table 407A for VR-B and routing table 407B for VR-C as illustrated in Fig. 4*) (**Shen, paragraphs [0027-0029] and [0047]**).

**Shen** does not explicitly teach wherein the first and second routing tables define said first and second destinations as default destinations which are used for traffic relay in any default situation.

In the same field of endeavor, **Killian** teaches all routing tables should include a default entry, wherein a default routing table entry is one to be associated with any messages whose destination addresses do not match the destination address or address range of any of the other routing table entries (**Killian, page 7, lines 12-35**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of defining first and second destinations as default destinations which are used for traffic relay in any default situation for the first and second routing tables, as disclosed by **Killian**, into the teachings of **Shen**, since both references are directed to relaying network traffic using routing tables. One would be motivated to do so to allow messages, whose destination addresses do not correspond to any specific address or address range contained in the destination column of the routing table, to be relayed to the default destination, i.e., the next hop, through which the message should be routed to get to its destination (**Killian**, page 7, lines 36-43).

5. As to claim 3, **Shen-Killian** teaches the method of claim 1, wherein at least some of the first and second routing tables comprise specific destinations pointing to another routing table, preferably by means of a next hop entry (**Shen**, paragraph [0029]).

6. As to claim 4, **Shen-Killian** teaches the method of claim 1, wherein the step of providing network adapters includes providing real network adapters and providing at least one virtual network adapter, wherein each virtual network adapter is individually associated with a third routing table (*each of the line cards 515A-515C include one or more forwarding tables ... a virtual router uses more than one VR forwarding table, VR interior gateway routing table, and/or VR exterior gateway routing table*) (**Shen**, Fig. 5 and paragraph [0051]).

7. As to claim 5, **Shen-Killian** teaches the method of claim 4, wherein the third routing table includes next hop and interface entries pointing to at least one of the following: another routing table or a real network adapter, and wherein the step of relaying uses the at least one virtual network adapter and its associated third routing table *(if the destination of the packet is ED3, then the forwarding module 207 forwards the packet 201 to the virtual router 205B and the virtual router 205B will process the packet 201 in accordance with its forwarding/routing information/table)* (**Shen, paragraphs [0028-0029]**).

8. Claims 7-12 and 14-15 recite corresponding network adapter, client terminal, router, system and computer program product claims that contain similar limitations as claims 1 and 3-5; therefore, they are rejected under the same rationale.

9. **Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shen-Killian, in view of Zhou (US 2002/0138578).**

10. As to claim 6, **Shen-Killian** teaches the method of claim 1, but does not explicitly teach the step of selecting a routing table is triggered by the source.

In the same field of endeavor, **Zhou** teaches when a client application program wants to communicate with a server application, the client application creates a socket on the client and may determine a client computer software port that is to be mapped to the client application. The client application then specifies that the created socket has a

destination IP address corresponding to the destination computer and a destination software port that corresponds to the port mapped to the server application program (*i.e., triggered by the source to select the port associated with the destination address*), and uses the socket to make a connection request to the server application (**Zhou, page 1, paragraph [0005]**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of selecting a routing table which defines the port associated with destination address, as disclosed by **Zhou**, into the teachings of **Shen-Killian**, since both references are directed to relaying network traffic using routing tables. One would be motivated to do so to allow the source, *i.e.*, the client application, to create a socket which defines a destination address corresponding to the destination computer and a destination port that corresponds to the port mapped to the server application program, and use the socket to make a connection request to the server application (**Zhou, page 1, paragraph [0005]**).

### ***Response to Arguments***

11. In the Remarks, Applicant argued in substance that

(A) The Applicant respectfully disagrees, and submits that Shen fails to teach where “the second destination is *individually associated* with said at least one second network adapter,” as recited in claim 1 (**see page 2 of the Remarks**).

As to point (A), Examiner respectfully disagrees noting that in paragraph [0027]

**Shen** does teach:

"The exterior gateway routing table 211 as illustrated in **Fig. 2** indicates external destinations ED1, **ED2**, and ED3 and **corresponding** next hops ADDRESS, I/F2, and VR-C, **respectively**. As with the internal destinations, the external destinations ED1, ED2, and ED3 can be IP addresses, prefixes, etc. While in one embodiment of the invention, external destinations that are other virtual routers are identified by an IP address or prefix, in alternative embodiments of the invention the external destinations may be a VR name or VR identifier." (**Emphasis added**)

Hence, **Shen** does teach "the second destination is individually associated with said at least one second network adapter" such as the "second destination" **ED2** is **individually associated** with "at least one second network adapter" **I/F2 (Shen, Fig. 2 and paragraphs [0027-0029])**. In addition, illustrated in Fig. 4, **Shen** also teaches providing at least one second routing table defining a second destination, wherein the second destination is individually associated with said at least one second network adapter (*providing a second routing table 407A for VR-B defining external destination ED2 individually associated with interface I/F4 as illustrated in Fig. 4*), and wherein the step of relaying includes a step of selecting one of the first and second routing tables (*depending on the destinations of the packet such as ED1, ED2, or ED7, the packet is relayed to the appropriate routing tables such as routing table 405 for VR-A, routing table 407A for VR-B and routing table 407B for VR-C as illustrated in Fig. 4*) (**Shen, Fig. 4 and paragraphs [0027-0029] and [0047]**).

Hence, Examiner respectfully submits that **Shen** does teach "the second destination is *individually associated* with said at least one second network adapter," as recited in claim 1.



(B) The Applicant submits that neither Shen nor Killian, taken alone or in combination, disclose, teach, suggest or provide any motivation for the claimed invention (see page 4 of the Remarks).

As to point (B), in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Examiner respectfully submits that **Shen** explicitly teaches all the limitations of claim 1, except wherein the first and second routing tables define said first and second destinations as default destinations which are used for traffic relay in any default situation.

In the same field of endeavor, **Killian** teaches all routing tables should include a default entry, wherein a default routing table entry is one to be associated with any messages whose destination addresses do not match the destination address or address range of any of the other routing table entries (**Killian, page 7, lines 12-35**).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the features of defining first and second destinations as default destinations which are used for traffic relay in any default situation for the first and second routing tables, as disclosed by **Killian**, into the

teachings of **Shen**, since both references are directed to relaying network traffic using routing tables.

One skill in the art would be motivated to include a default entry in a routing table to allow messages, whose destination addresses do not correspond to any specific address or address range contained in the destination column of the routing table, to be relayed to the default destination, i.e., the next hop, through which the message should be routed to get to its destination (**Killian, page 7, lines 25-43**).

In response to applicant's argument that "Furthermore, **Shen** also fails to describe any limitation of the use of its routing tables without a default destination" (**see page 4 of the Remarks**), a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In response to applicant's arguments against the references individually such as "**Shen** fails to mention a default destination entirely, and therefore also lacks any motivation to combine with the teachings of Killian to arrive at the claimed invention" (**see page 4 of the Remarks**), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

***Conclusion***

12. Applicant's arguments as well as request for reconsideration filed on 11/06/2008 have been fully considered but they are not deemed to be persuasive.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Nguyen whose telephone number is (571) 272-3886.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's SPE, Rupal Dharia, can be reached at (571) 272-3880. The fax phone number for the organization is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quang N. Nguyen/  
Primary Examiner, Art Unit 2441